



# **Armed Forces College of Medicine AFCM**



# **Pectoral Region**

## **Dr. Shereen Adel**

# INTENDED LEARNING OBJECTIVES (ILO)



By the end of this lecture the student will be able to:

1. Identify the attachments of the axillary fascia.
2. Identify the attachments & structures piercing clavipectoral fascia.
3. Describe attachment, action and nerve supply muscles of the pectoral region; pectoralis major, pectoralis minor, subclavius and serratus anterior.

## Key points



1. Pectoral muscles
2. Clavipectoral fascia
3. Serratus anterior

# Pectoral region



## Superficial fascia:

Contains 1- cutaneous nerves & vessels

2- The breast

(mammary gland)

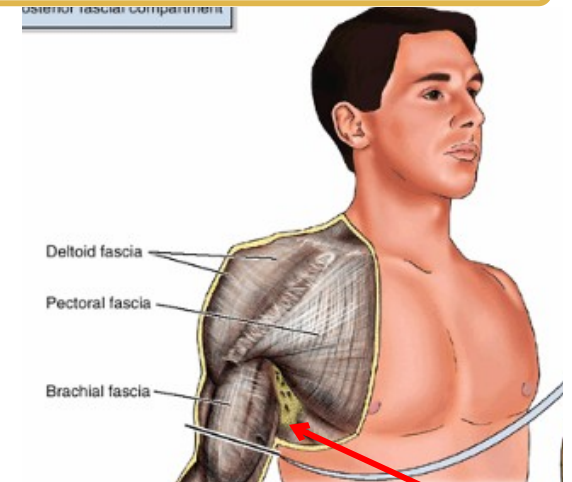
## Deep fascia: (Pectoral fascia)

This is a thin membrane that invests the pectoralis major muscle.

## Attachments:

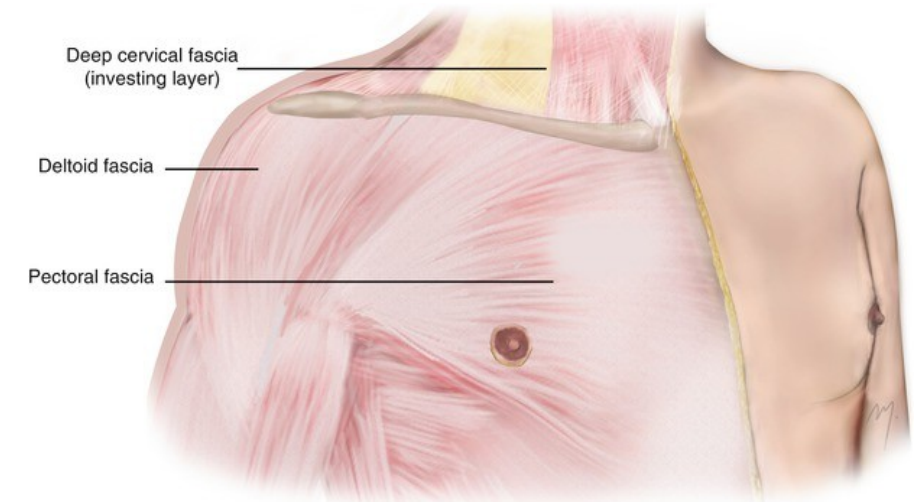
Superiorly: to the clavicle.

Inferiorly: continuous with the



axillary fascia

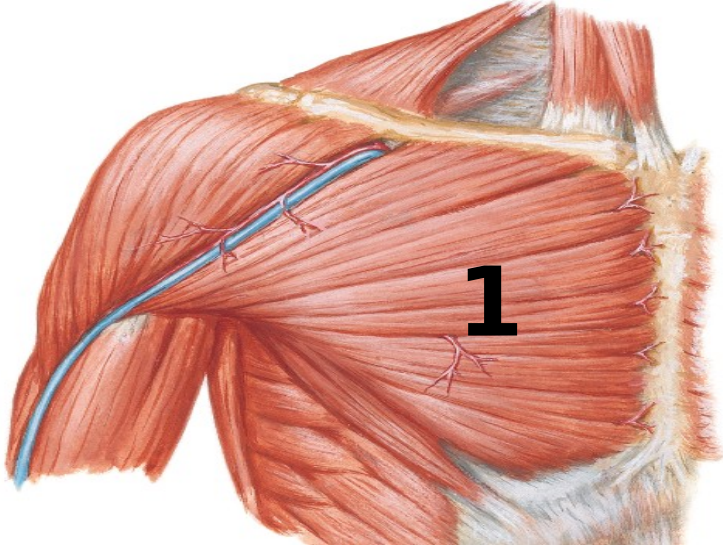
*Clinically oriented Anatomy, 5<sup>th</sup> edition, Keith M*



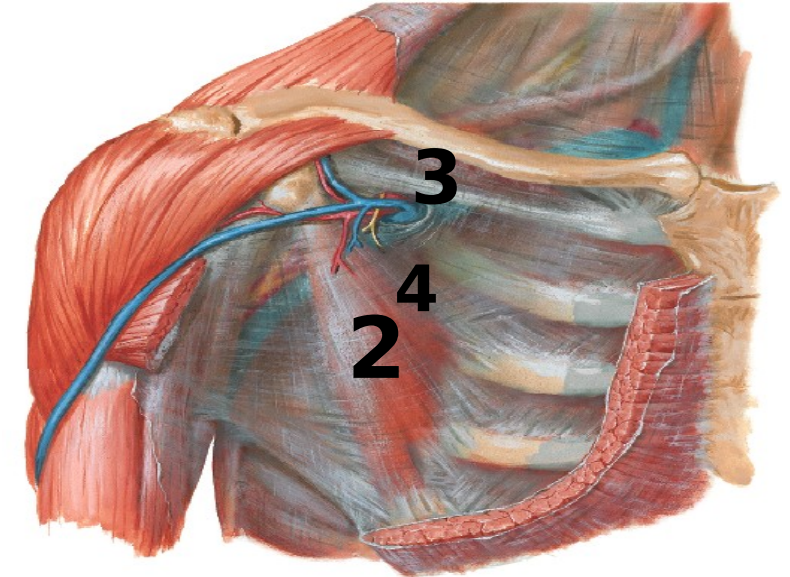
# Pectoral region



## **Muscles of pectoral region: Connects U.L.to thora**



Frank H.Netter. 4<sup>th</sup> edition



Frank H.Netter. 4<sup>th</sup> edition

**1. Pectoralis Major muscle**

**Deep to pectoralis major are:**

**2. Pectoralis Minor**

**3. Subclavius muscle**

**4. Clavipectoral fascia (between 2 & 3)**



# Pectoralis major



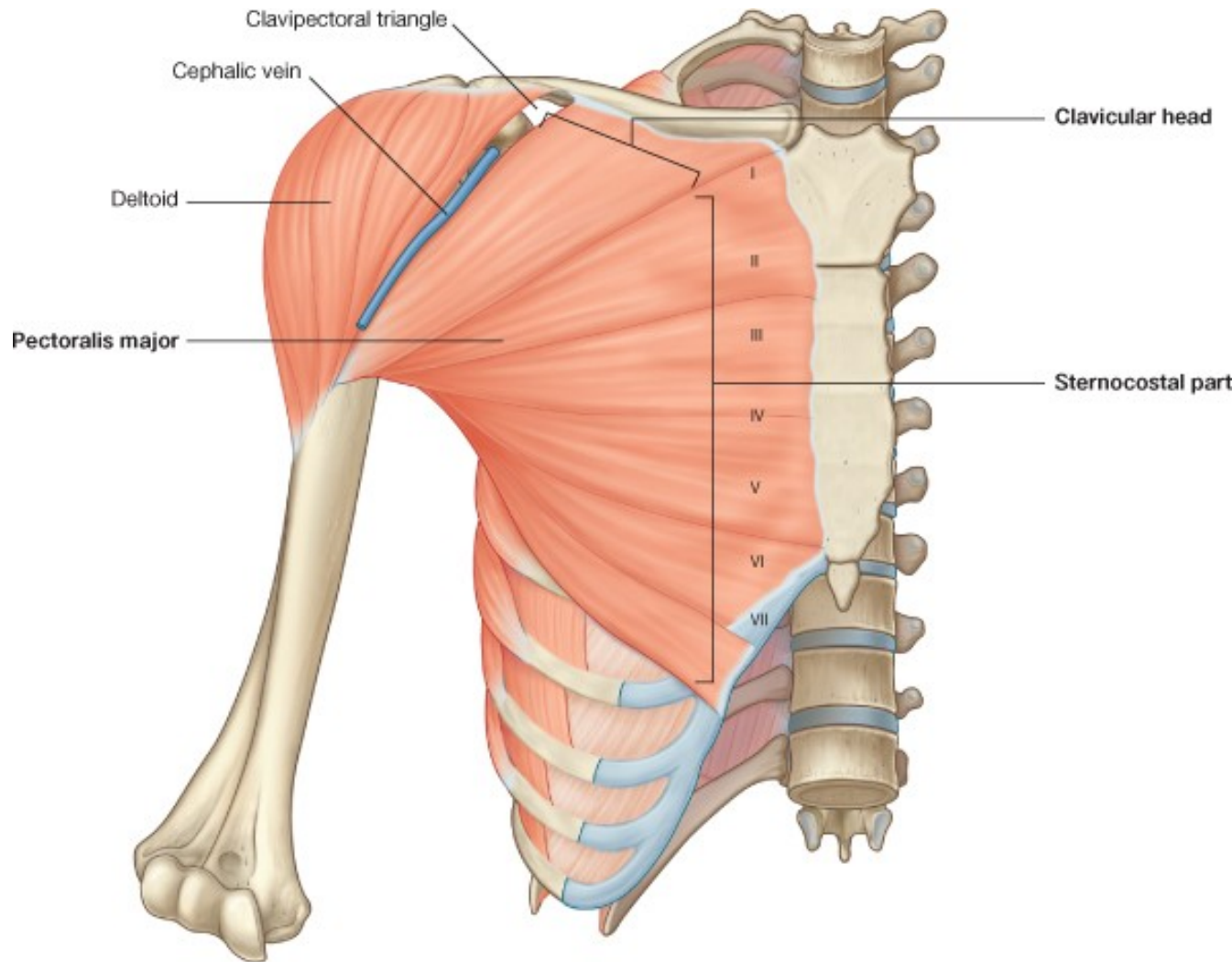
**Origin :**

**Clavicular head :** from  
anterior surface of medial  
half of the clavicle

**Sternocostal head :** from  
Corresponding half of anterior  
surface of sternum.  
2<sup>nd</sup> to 6<sup>th</sup> costal cartilages.

**Insertion :**

flat **bilaminar tendon** into the  
lateral lip of bicipital groove.



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# Pectoralis major



## Pectoralis major:

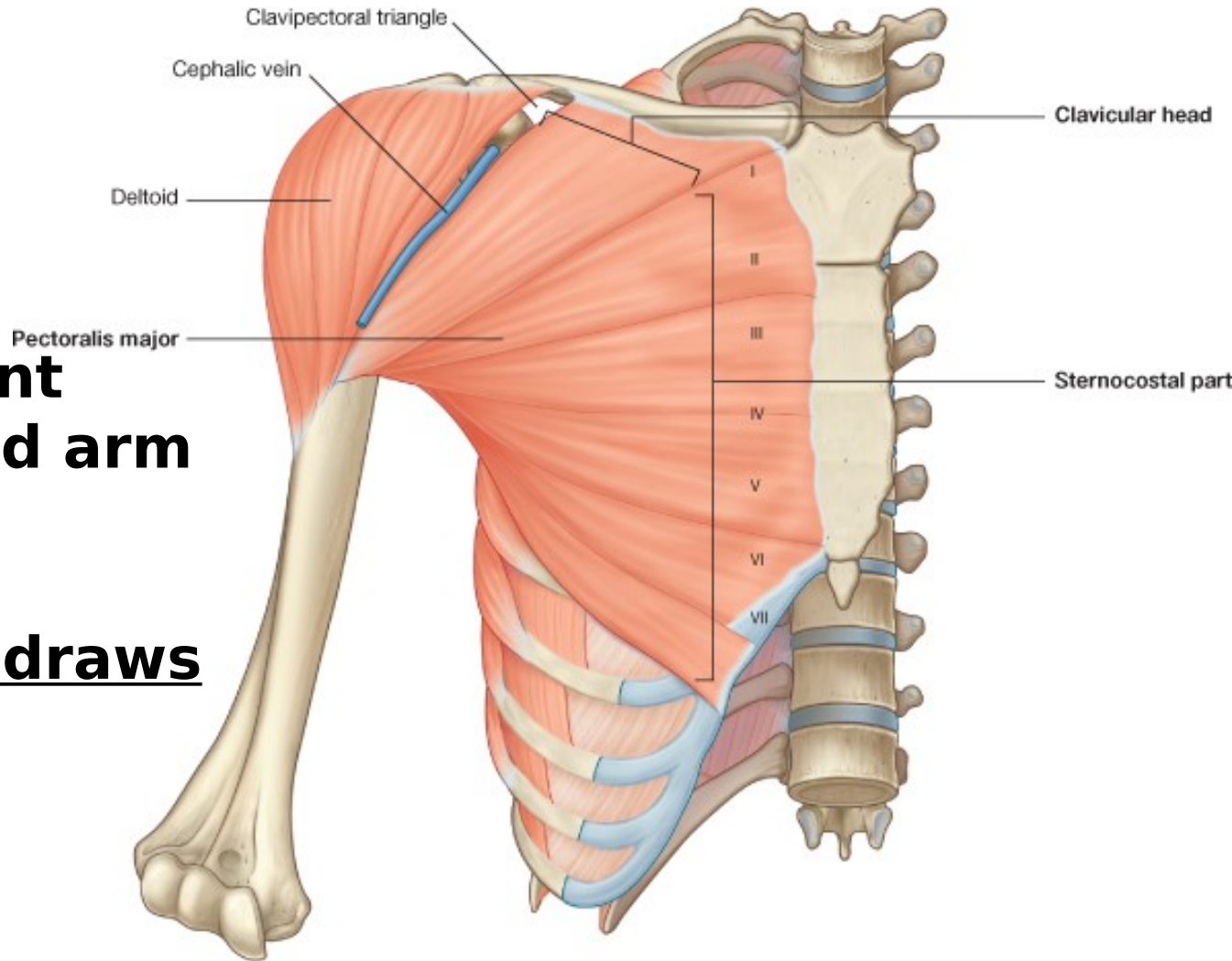
on:

the **whole muscle** adduct and  
internally rotate shoulder joint.

**Clavicular head** : flexes shoulder joint

**Sternocostal head** : brings the flexed arm  
to resting position.

**When insertion is fixed, the muscle draws  
trunk upwards as in climbing**



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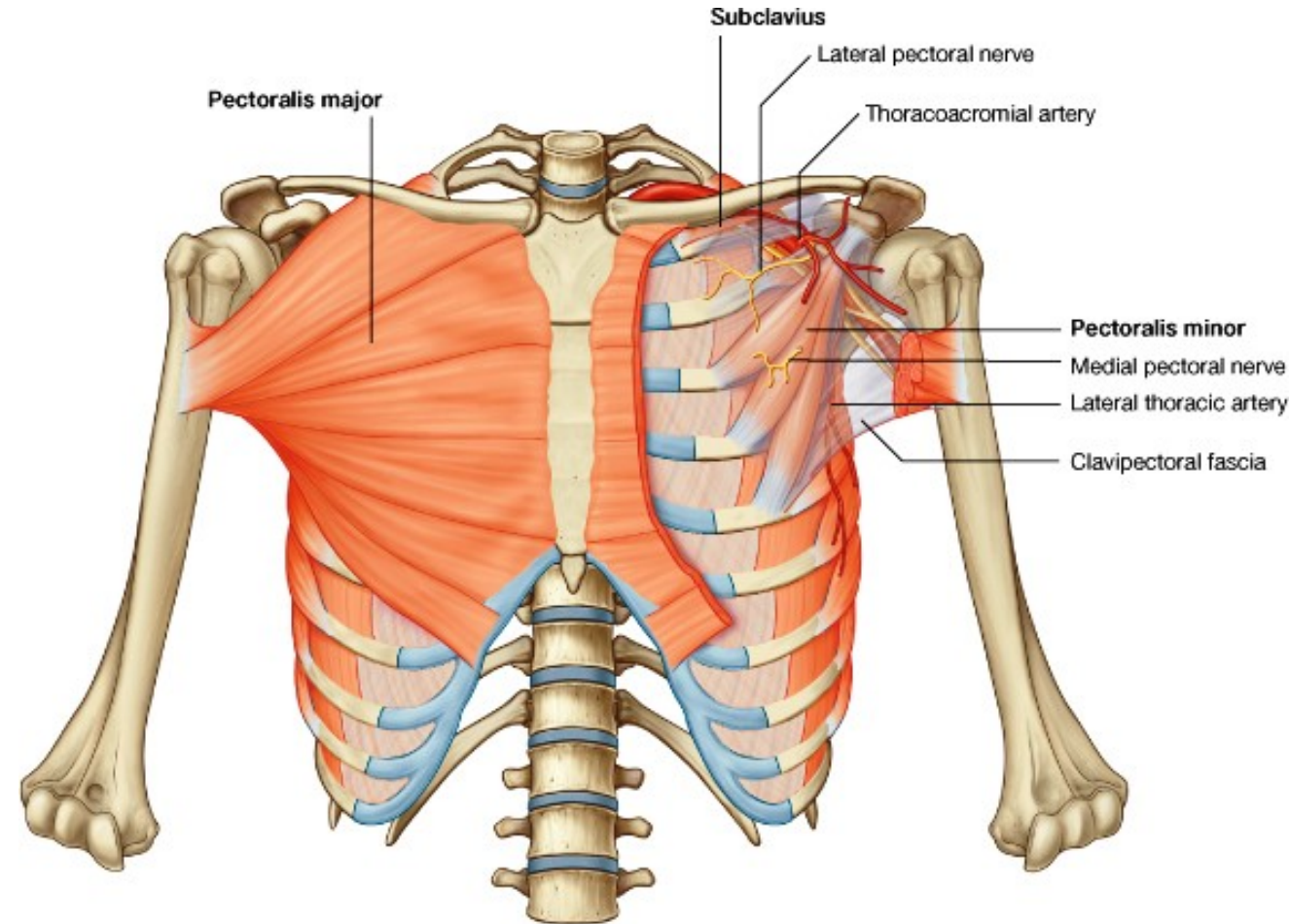
# Pectoralis minor



**Origin :**  
1<sup>st</sup>, 4<sup>th</sup>, 5<sup>th</sup> ribs

**Insertion :**  
Coracoid process

**Action:**  
Protraction and depression  
of the scapula.



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# Subclavius muscle



gin :

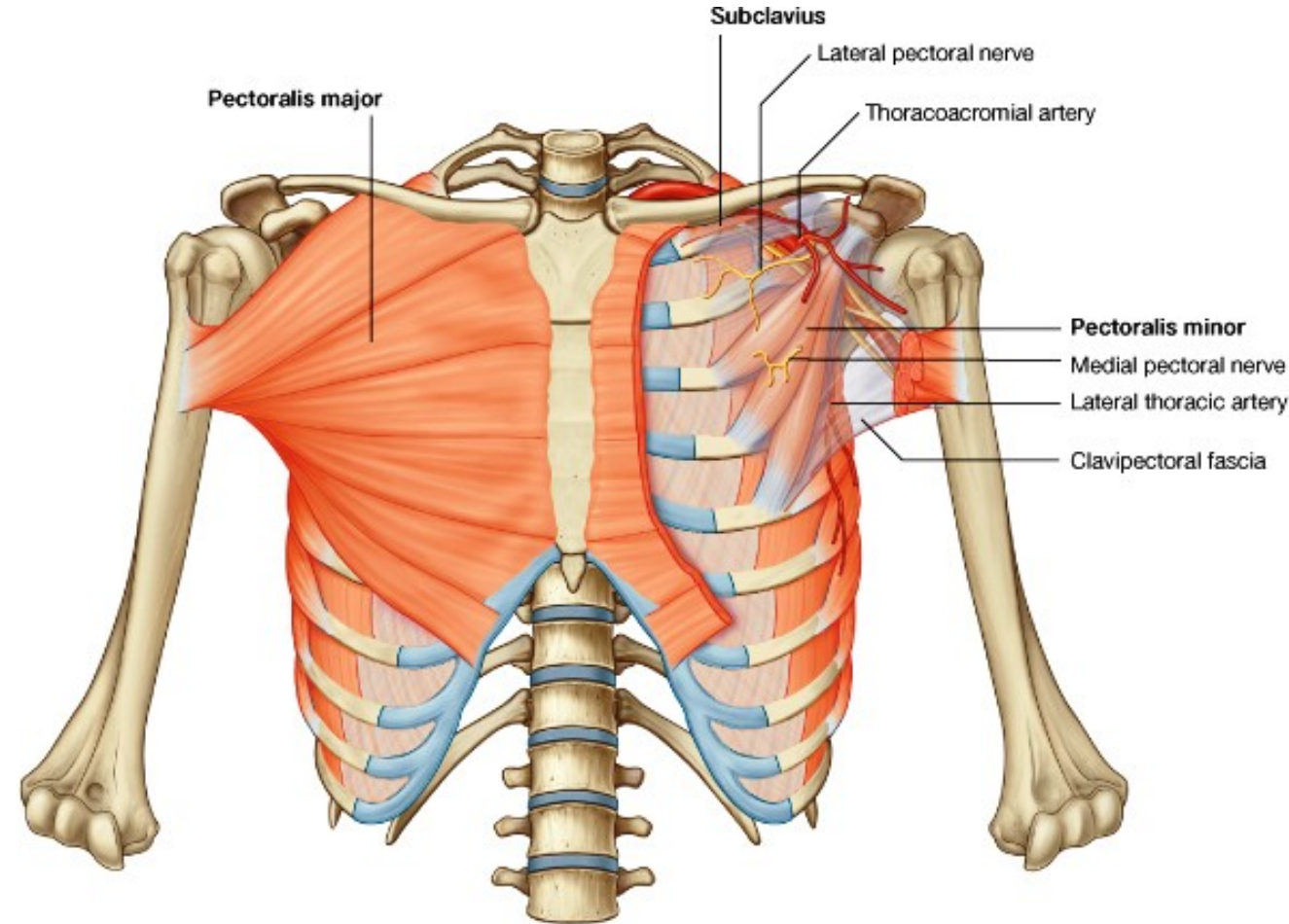
t costochondral junction )

rtion :

ove of subclavius in the inferior  
face of the clavicle.

ion:

adies the clavicle during  
vements of shoulder girdle.



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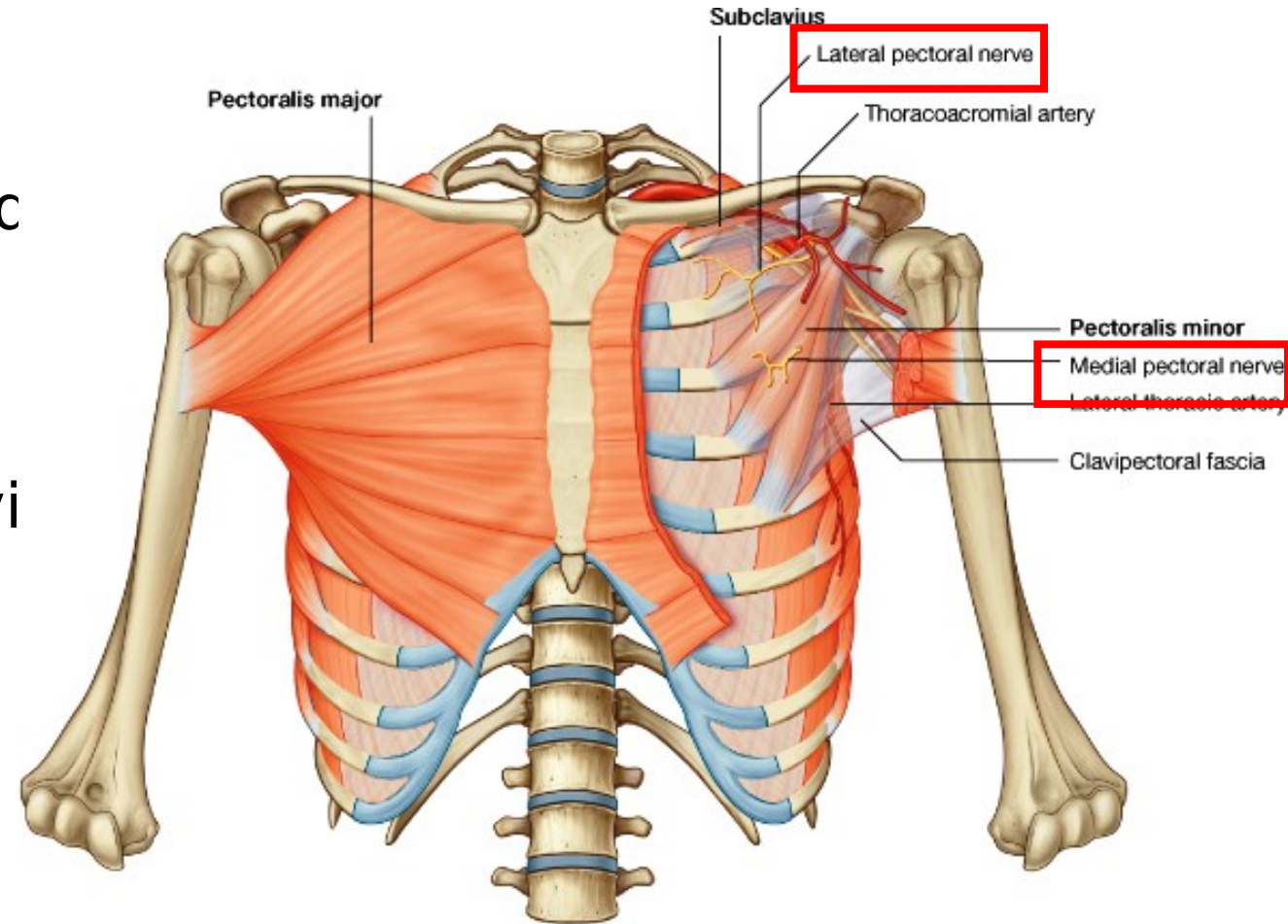
# Pectoral region



The supply of pectoral muscles :

**Pectoralis major and minor** are supplied by medial & lateral pectoral nerves.

**Subclavius** is supplied by nerve to subclavius



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# Lecture Quiz 1 (pectoral muscles)



- Pectoralis major action on the shoulder include:
  - a) Abduction & lateral rotation
  - b) Adduction & medial rotation
  - c) Protraction of scapula
  - d) Extension

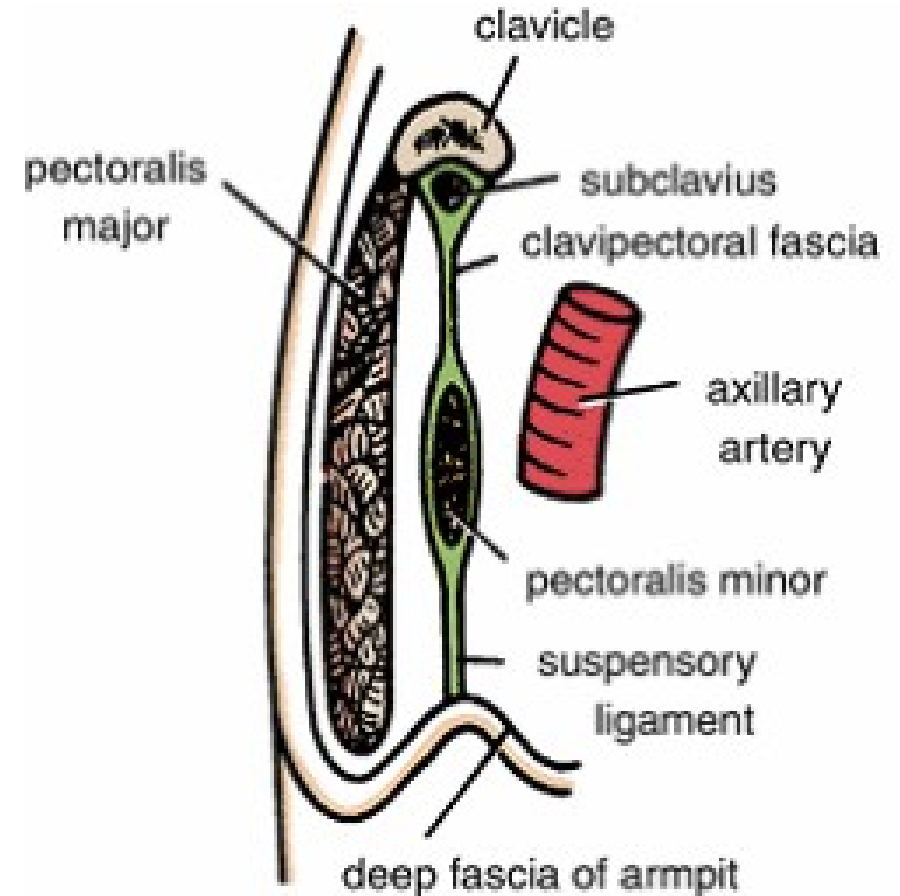
# Clavipectoral fascia



A strong sheet of fibrous tissue, that lies **deep** to **pectoralis major** muscle, filling the gap between the **subclavius** and **pectoralis minor** muscles .

## Attachments:

**Superiorly:** It splits to enclose the subclavius muscle and is attached to the lips of the subclavius groove.



*Clinical Anatomy by regions, Richard S. Snell, 9<sup>th</sup> edition*

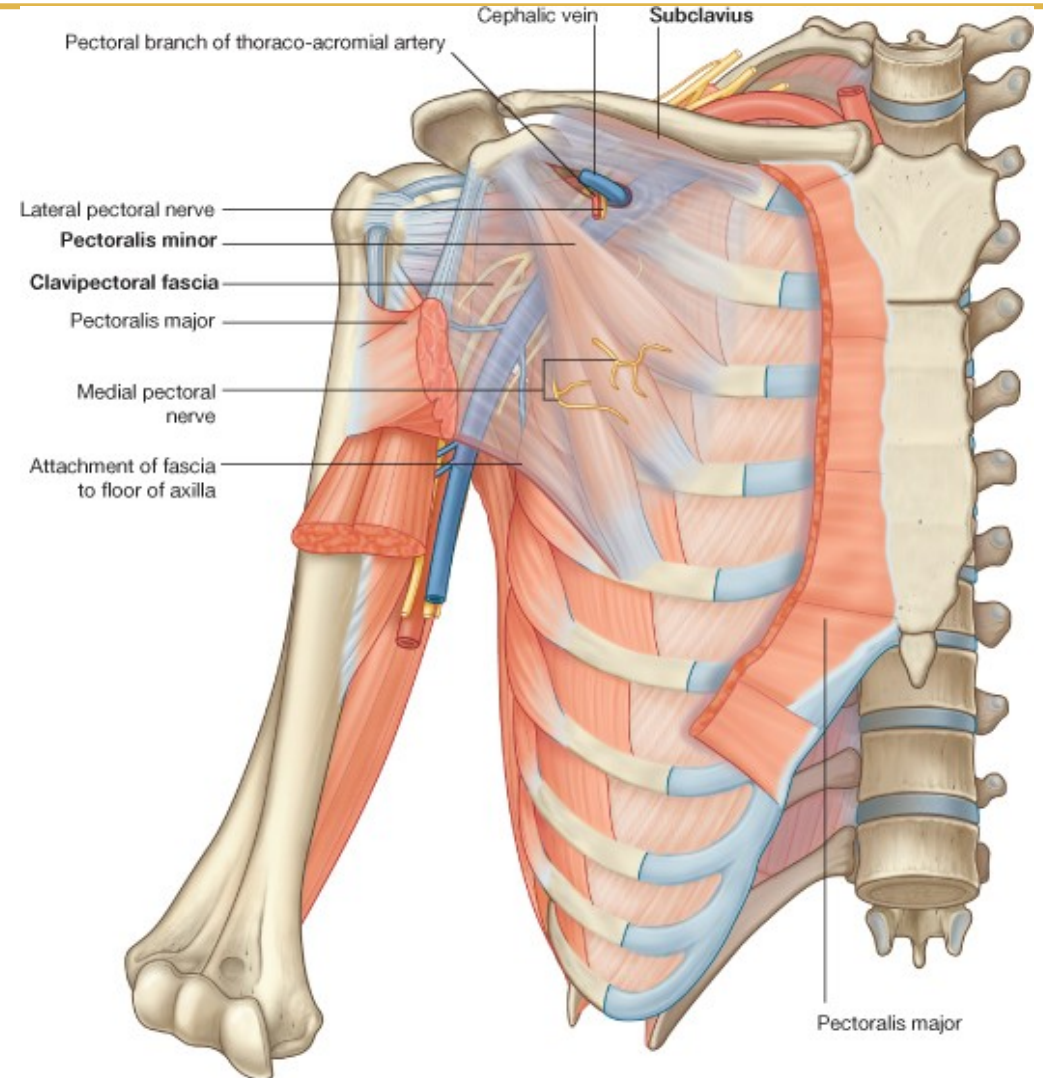


# Clavipectoral fascia



**Medially:** It blends with fascia over the first two intercostal spaces and is attached to the 1st rib medial to subclavius.

**Laterally:** it is thick and dense and is attached to the coracoid process.



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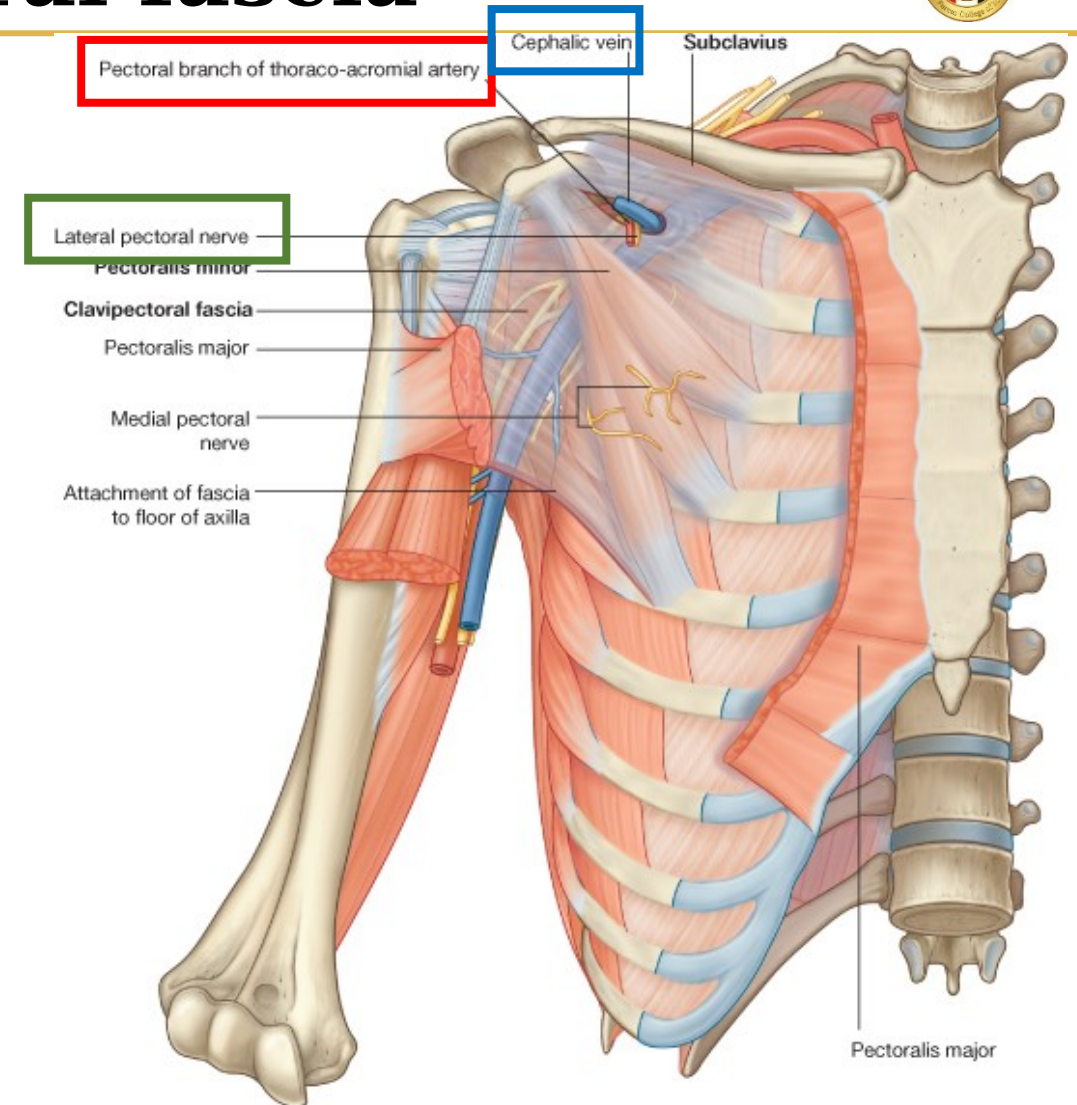


# Clavipectoral fascia



## Structures piercing the clavipectoral fascia:

1. **Thoracoacromial artery** and vein.
2. **Cephalic vein** to terminate into the axillary vein.
3. **Lateral pectoral nerve**.
4. Lymph vessels.



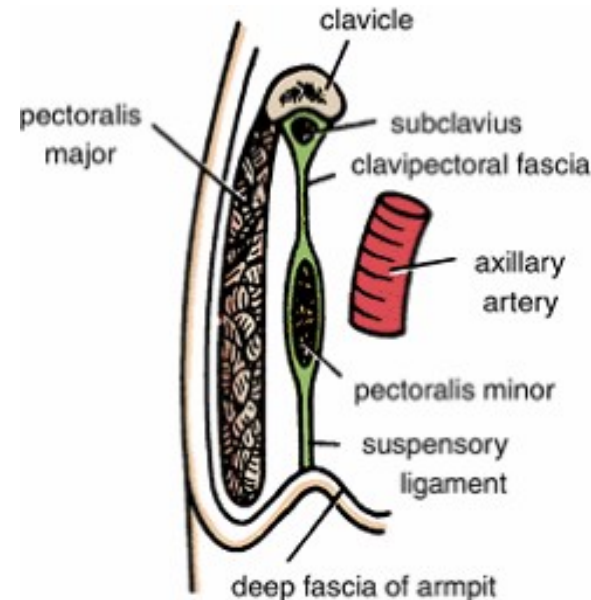
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# Clavipectoral fascia

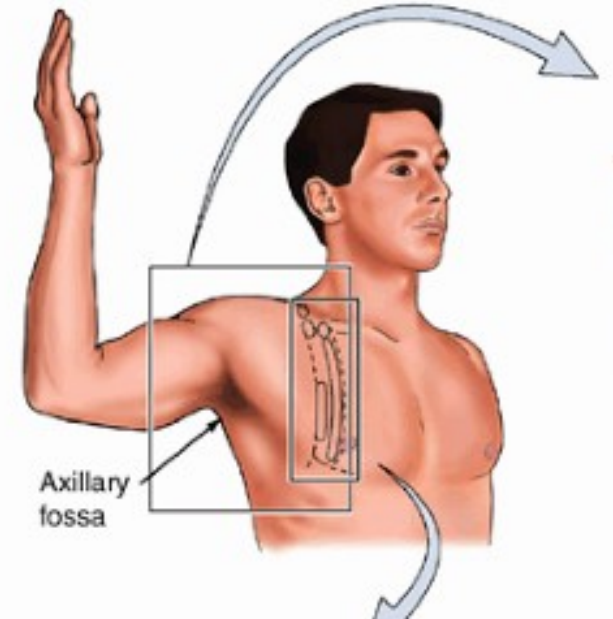


## Functions of the clavipectoral fascia:

1. It **protects** the contents of the axilla.
2. The suspensory ligament **raises the skin of the floor of the axilla** when the clavicle is elevated and thus it maintains the hollow of the axilla.



*Clinical Anatomy by regions, Richard S. Snell, 9<sup>th</sup> edition*



*Clinically oriented Anatomy, 5<sup>th</sup> edition, Keith Moore*

## Lecture Quiz 2 (clavipectoral fascia)



- One of the following structures, pierces clavipectoral fascia
  - a) Pectoralis minor muscle
  - b) Medial pectoral nerve
  - c) Long thoracic nerve
  - d) Thoracoacromial artery

# Serratus anterior muscle

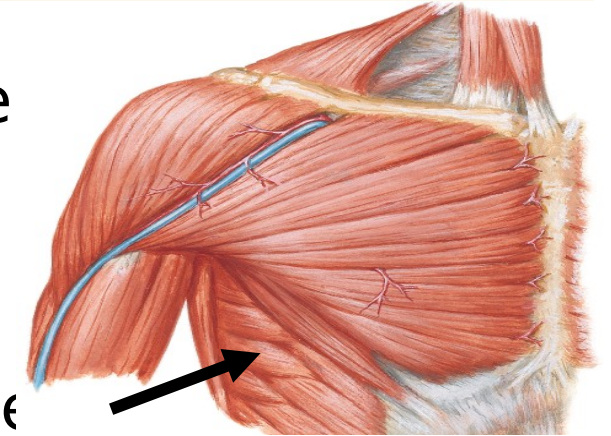


**Origin:** A muscle arising by 8 fleshy digitations from the inserted into scapula.

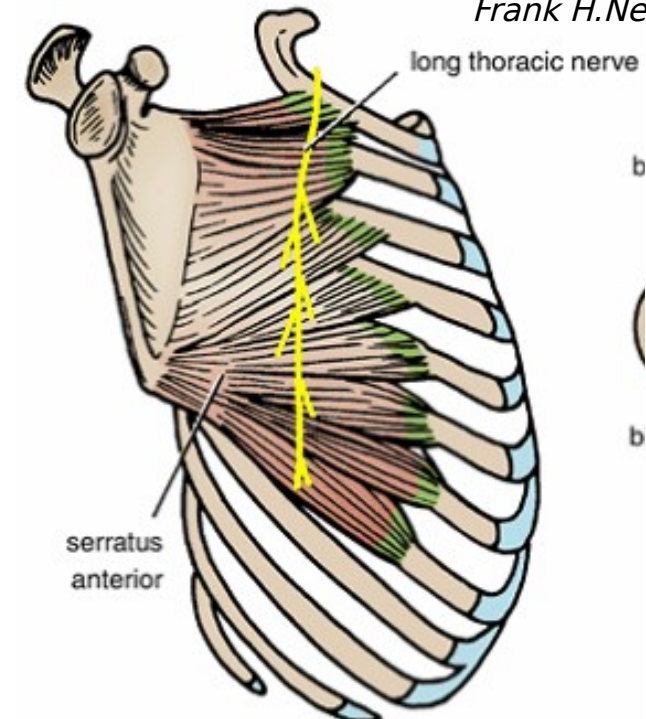
## Insertion:

The muscle passes **backwards** to be inserted into the ventral aspect of the **medial border of the scapula** as

- **The 1<sup>st</sup> digitation** is inserted opposite the superior angle of the scapula.
- **The 2<sup>nd</sup> & 3<sup>rd</sup> digitations** are inserted along the medial border of the scapula.
- **The lower 5 digitations** converge into a the inferior angle of the scapula.



Frank H. Netter. 4<sup>th</sup> edition



# Serratus anterior muscle

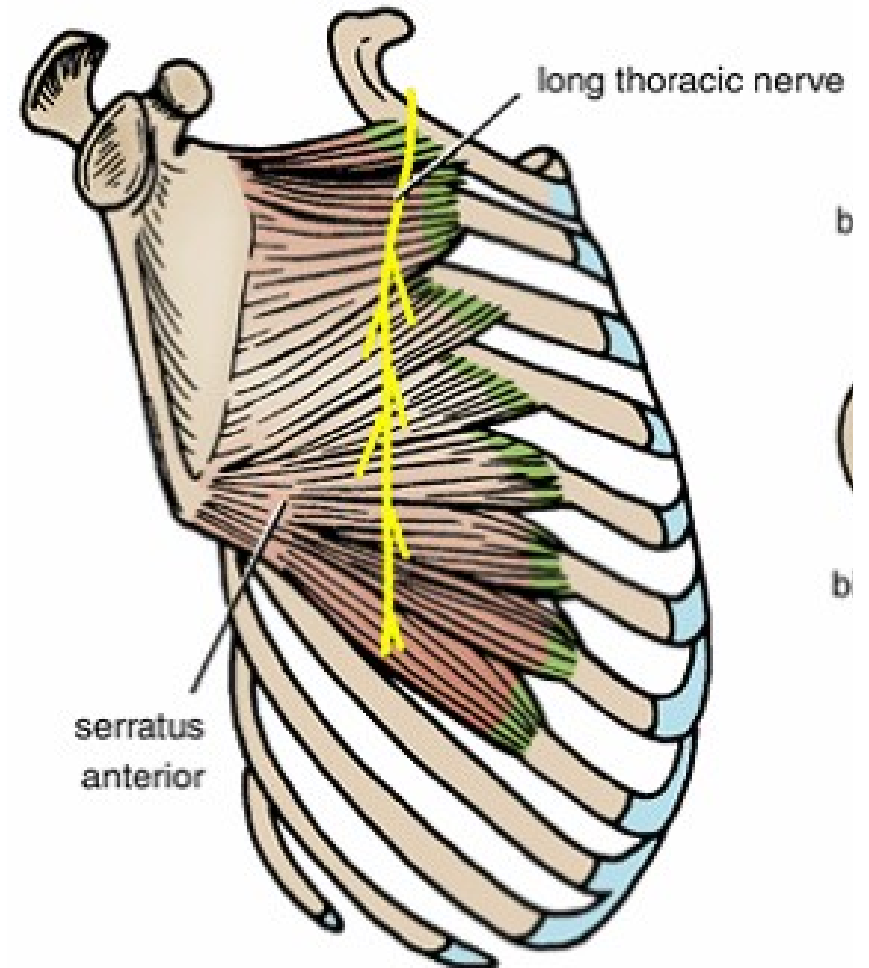


## Nerve supply:

**Nerve to Serratus anterior** (Long thoracic nerve) (C5,6,7) (from the roots of the the brachial plexus).

## \*\* Action:

1. **Protraction** and **depression** of the scapula.
2. Its lower 5 digitations act with the upper and lower fibers of trapezius producing **upward rotation of the scapula** during raising the arm above the head.



*Clinical Anatomy by regions, Richard S. Snell, 9<sup>th</sup> edition*

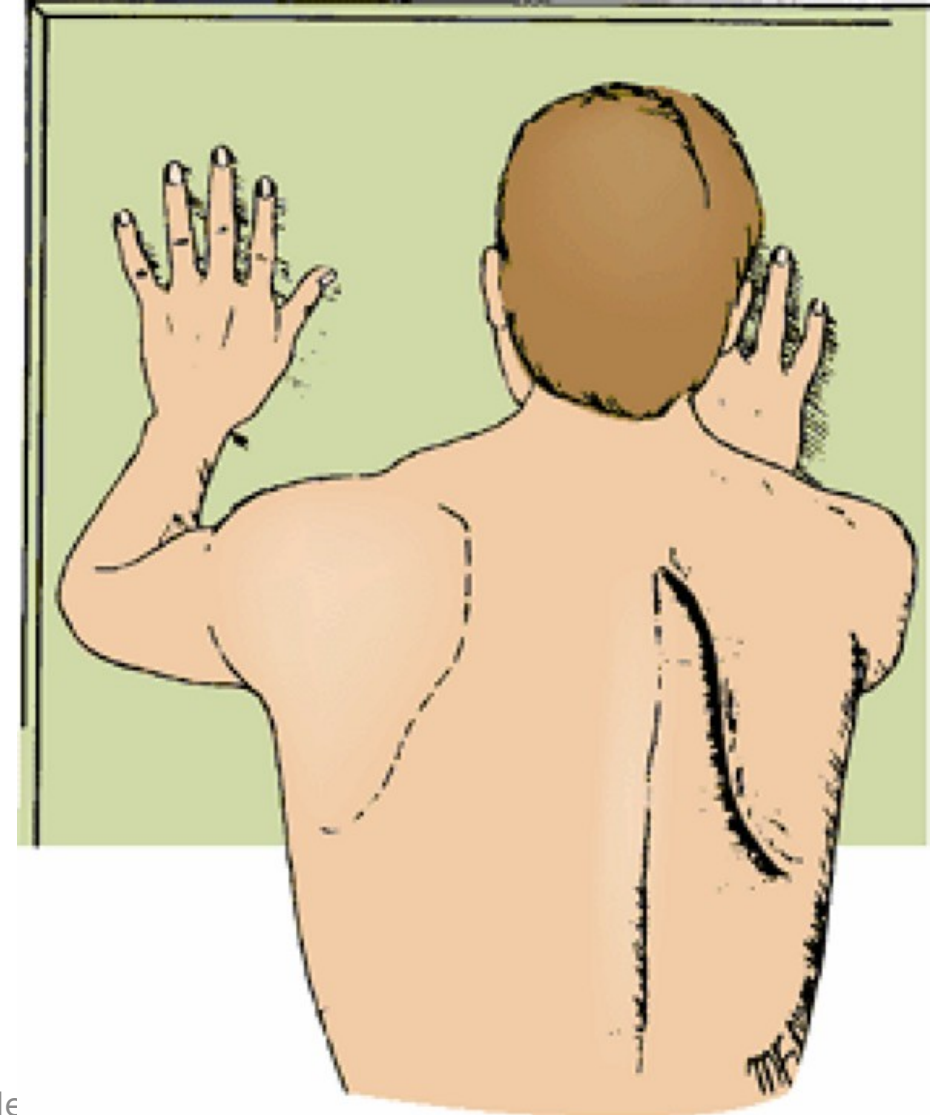


# Serratus anterior muscle



## Applied Anatomy:

Injury of the **long thoracic nerve** leads to the paralysis of the muscle. This results in **winging of the scapula** (where the scapula stands out as a wing on pressing forwards with outstretched arm i.e. the medial border of the scapula is not in contact with the thoracic wall).





## Lecture Quiz 3 (serratus anterior)



- Serratus anterior muscle is supplied by one of the following nerves:
  - a) Lateral pectoral
  - b) Medial pectoral
  - c) Long thoracic
  - d) Axillary

## SUGGESTED TEXTBOOKS



1. Frank H. Netter Atlas of Human Anatomy, 4<sup>th</sup> edition.

Plates 424,426 & 428.

2. Clinical Anatomy by regions, Richard Snell, 9<sup>th</sup> edition.

From page 343- 348.

# Summary



1. The attachments of the axillary fascia.
2. The attachments, function & structures piercing clavipectoral fascia.
3. Pectoral muscles attachments, action & nerve supply.



**Thank You**